

0400

03/09/01
OIPE

#3

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/740,211DATE: 03/22/2001
TIME: 11:13:57Input Set : A:\09740211.txt
Output Set: N:\CRF3\03222001\I740211.raw**ENTERED**

3 <110> APPLICANT: Couto, Linda B.
 4 Colosi, Peter C.
 6 <120> TITLE OF INVENTION: Adeno-Associated Vectors for Expression of Factor VIII
 7 by Target Cells
 9 <130> FILE REFERENCE: Avigen-04082
 11 <140> CURRENT APPLICATION NUMBER: 09/740,211
 12 <141> CURRENT FILING DATE: 2000-12-18
 14 <150> PRIOR APPLICATION NUMBER: 09/470,618
 15 <151> PRIOR FILING DATE: 1999-12-22
 17 <150> PRIOR APPLICATION NUMBER: 60/125,974
 18 <151> PRIOR FILING DATE: 1999-03-24
 20 <150> PRIOR APPLICATION NUMBER: 60/104,994
 21 <151> PRIOR FILING DATE: 1998-10-20
 23 <160> NUMBER OF SEQ ID NOS: 15
 25 <170> SOFTWARE: PatentIn Ver. 2.0
 27 <210> SEQ ID NO: 1
 28 <211> LENGTH: 59
 29 <212> TYPE: DNA
 30 <213> ORGANISM: Artificial Sequence
 32 <220> FEATURE:
 33 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 35 <400> SEQUENCE: 1
 36 cccaagcttg cggccgccc ggtgccgcc ctaggcaggt aagtgcctg tgtggttcc 59
 38 <210> SEQ ID NO: 2
 39 <211> LENGTH: 59
 40 <212> TYPE: DNA
 41 <213> ORGANISM: Artificial Sequence
 43 <220> FEATURE:
 44 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 46 <400> SEQUENCE: 2
 47 ccgctcgagc agagctctat ttgcatggtg gaatcgatgc cgcgggaacc acacacggc 59
 49 <210> SEQ ID NO: 3
 50 <211> LENGTH: 103
 51 <212> TYPE: DNA
 52 <213> ORGANISM: Artificial Sequence
 54 <220> FEATURE:
 55 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 57 <400> SEQUENCE: 3
 58 cccaagcttg cggccgccc ggtgccgcc ctaggcaggt aagtgcctg tgtggttccc 60
 59 gcggcatcga ttccaccatg caaatagagc tctgctcgag cgg 103
 61 <210> SEQ ID NO: 4
 62 <211> LENGTH: 57
 63 <212> TYPE: DNA
 64 <213> ORGANISM: Artificial Sequence
 66 <220> FEATURE:
 67 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 69 <400> SEQUENCE: 4

RAW SEQUENCE LISTING DATE: 03/22/2001
 PATENT APPLICATION: US/09/740,211 TIME: 11:13:57

Input Set : A:\09740211.txt
 Output Set: N:\CRF3\03222001\I740211.raw

```

70 ttcccgcggg cctggcctct ttacgggtta tggcccttgc gtgccttgaa ttactga      57
72 <210> SEQ ID NO: 5
73 <211> LENGTH: 57
74 <212> TYPE: DNA
75 <213> ORGANISM: Artificial Sequence
77 <220> FEATURE:
78 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
80 <400> SEQUENCE: 5
81 gaatcgatac ctgtggagaa aaagaaaaag tggatgtcag tgtcagtaat tcaaggc      57
83 <210> SEQ ID NO: 6
84 <211> LENGTH: 99
85 <212> TYPE: DNA
86 <213> ORGANISM: Artificial Sequence
88 <220> FEATURE:
89 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
91 <400> SEQUENCE: 6
92 ttcccgcggg cctggcctct ttacgggtta tggcccttgc gtgccttgaa ttactgacac 60
93 tgacatccac tttttctttt tctccacagg tatcgattc      99
95 <210> SEQ ID NO: 7
96 <211> LENGTH: 100
97 <212> TYPE: DNA
98 <213> ORGANISM: Artificial Sequence
100 <220> FEATURE:
101 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
103 <400> SEQUENCE: 7
104 agggaatggt tgttcttaaa taccatccag ggaatgtttg ttcttaaata ccatccaggg 60
105 aatgtttggt cttaaatacc atctacagtt attggttaaa      100
107 <210> SEQ ID NO: 8
108 <211> LENGTH: 59
109 <212> TYPE: DNA
110 <213> ORGANISM: Artificial Sequence
112 <220> FEATURE:
113 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
115 <400> SEQUENCE: 8
116 ggaaaggtga tctgtgtgca gaaagactcg ctctaataata cttctttaac caataactg 59
118 <210> SEQ ID NO: 9
119 <211> LENGTH: 144
120 <212> TYPE: DNA
121 <213> ORGANISM: Artificial Sequence
123 <220> FEATURE:
124 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
126 <400> SEQUENCE: 9
127 agggaatggt tgttcttaaa taccatccag ggaatgtttg ttcttaaata ccatccaggg 60
128 aatgtttggt cttaaatacc atctacagtt attggttaaa gaagtattatt agagcgagtc 120
129 tttctgcaca cagatcacct ttcc      144
131 <210> SEQ ID NO: 10
132 <211> LENGTH: 59
133 <212> TYPE: DNA
134 <213> ORGANISM: Artificial Sequence

```

RAW SEQUENCE LISTING

DATE: 03/22/2001

PATENT APPLICATION: US/09/740,211

TIME: 11:13:57

Input Set : A:\09740211.txt

Output Set: N:\CRF3\03222001\I740211.raw

```

136 <220> FEATURE:
137 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
139 <400> SEQUENCE: 10
140 tcgagaataa aagatcagag ctctagagat ctgtgtgttg gttttttgtg tgcggccgc 59
142 <210> SEQ ID NO: 11
143 <211> LENGTH: 59
144 <212> TYPE: DNA
145 <213> ORGANISM: Artificial Sequence
147 <220> FEATURE:
148 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
150 <400> SEQUENCE: 11
151 tcgagcggcc gcacacaaaa aaccaacaca cagatctcta gagctctgat cttttattc 59
153 <210> SEQ ID NO: 12
154 <211> LENGTH: 63
155 <212> TYPE: DNA
156 <213> ORGANISM: Artificial Sequence
158 <220> FEATURE:
159 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
161 <400> SEQUENCE: 12
162 tcgagaataa aagatcagag ctctagagat ctgtgtgttg gttttttgtg tgcggccgct 60
163 cga 63
165 <210> SEQ ID NO: 13
166 <211> LENGTH: 11933
167 <212> TYPE: DNA
168 <213> ORGANISM: Artificial Sequence
170 <220> FEATURE:
171 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
173 <400> SEQUENCE: 13
174 cagctgcgcg ctgcgtcgc tactgaggcc gcccgggcaa agcccggcg tcgggcgacc 60
175 tttggtcgcc cgccctcagt gagegagcga gcgcgcagag agggagtggc caactccatc 120
176 actaggggtt cctgcggccg cccagggaat gtttgttctt aaataccatc cagggaatgt 180
177 ttgttcttaa ataccatcca gggaatgttt gttcttaaat accatctaca gttattgggt 240
178 aaagaagtat attagagcga gtctttctgc acacagatca cctttccggg tgcgccccct 300
179 aggcaggtaa gtgcctgtgt tggttcccgc gggcctggcc tctttacggg ttatggccct 360
180 tgcgtgcctt gaattactga cactgacatc cactttttct tttctccac aggtatcgat 420
181 tccaccatgc aaatagagct ctccacctgc ttctttctgt gccttttgcg attctgcttt 480
182 agtgccacca gaagatacta cctgggtgca gtggaactgt catgggacta tatgcaaagt 540
183 gatctcggtg agctgcctgt ggacgcaaga tttcctccta gagtgcctaa atcttttoca 600
184 ttcaaacctt cagtcgtgta caaaaagact ctgtttgtag aattcacgga tcaccttttc 660
185 aacatcgcta agccaaggcc accctggatg ggtctgctag gtctaccat ccaggctgag 720
186 gtttatgata cagtggatcat tacacttaag aacatggctt cccatcctgt cagtcttcat 780
187 gctgttggtg tatcctactg gaaagcttct gagggagctg aatatgatga tcagaccagt 840
188 caaagggaga agaagatga taaagtcttc cctggtggaa gccatacata tgtctggcag 900
189 gtccatgaaag agaattggtc aatggcctct gaccactgt gccttaccta ctcatatctt 960
190 tctcatgtgg acctggtaaa agacttgaat tcaggcctca ttggagccct actagtatgt 1020
191 agagaaggga gtctggccaa ggaaaagaca cagaccttgc acaaatttat actacttttt 1080
192 gctgtatttg atgaaggga aagttggcac tcagaaacaa agaactcctt gatgcaggat 1140
193 agggatgctg catctgctcg ggccctggcct aaaatgcaca cagtcaatgg ttatgtaaac 1200
194 aggtctctgc caggtctgat tggatgccac aggaaatcag tctattggca tgtgattgga 1260

```

RAW SEQUENCE LISTING

DATE: 03/22/2001

PATENT APPLICATION: US/09/740,211

TIME: 11:13:57

Input Set : A:\09740211.txt

Output Set: N:\CRF3\03222001\I740211.raw

```

195 atgggcacca ctctgaagt gcaactcaata ttcctcgaag gtcacacatt tcttgtgagg 1320
196 aaccatcgcc aggcgtcctt ggaaatctcg ccaataaactt tccttactgc tcaaacactc 1380
197 ttgatggacc ttggacagtt tctactgttt tgtcatatct cttcccacca acatgatggc 1440
198 atggaagcct atgtcaaagt agacagctgt ccagaggaaac cccaactacg aatgaaaaat 1500
199 aatgaagaag cggaagacta tgatgatgat cttactgatt ctgaaatgga tgtggtcagg 1560
200 tttgatgatg acaactctcc ttcttttatt caaatcgcct cagttgccaa gaagcatcct 1620
201 aaaacttggg tacattacat tgctgctgaa gaggaggact gggactatgc tcccttagtc 1680
202 ctgcgccccg atgacagaag ttataaaagt caatatgtga acaatggccc tcagcggatt 1740
203 ggtaggaagt acaaaaaagt ccgatttatg gcatacacag atgaaacctt taagactcgt 1800
204 gaagctattc agcatgaatc aggaatcttg ggacctttac tttatgggga agttggagac 1860
205 aactgtttga ttatatattaa gaatcaagca agcagaccat ataacatcta ccctcacgga 1920
206 atcactgatg tccgtccttt gtattcaagg agattaccaa aaggtgtaaa acatttgaag 1980
207 gatttttcaa ttctgccagg agaaatattc aaatataaat ggacagtgc tgtagaagat 2040
208 gggccaacta aatcagatcc tcggtgcctg acccgctatt actctagttt cgttaatatg 2100
209 gagagagatc tagcttcagg actcattggc cctctcctca tctgctacaa agaactctgt 2160
210 gatcaaagag gaaaccagat aatgtcagac aagaggaaatg tcatcctgtt ttctgtattt 2220
211 gatgagaacc gaagctggta cctcacagag aatatacaac gctttctccc caatccagct 2280
212 ggagtgcagc ttgaggatcc agagttccaa gcctccaaca tcatgcacag catcaatggc 2340
213 tatgtttttg atagtgttgc gttgtcagtt tgtttgcata aggtggcata ctggtacatt 2400
214 ctaagcattg gagcacagac tgacttcctt tctgtcttct tctctggata taccttcaaa 2460
215 cacaaaatgg tctatgaaga cacactcacc ctattcccat tctcaggaga aactgtcttc 2520
216 atgtcgatgg aaaaccaggg tctatggatt ctggggtgcc acaactcaga ctttcggaac 2580
217 agaggcatga ccgccttact gaaggtttct agttgtgaca agaactcagg tgattattac 2640
218 gaggcaggtt atgaagatat ttcagcatac ttgctgagta aaaacaatgc cattgaacca 2700
219 agaagcttcg aaataactcg tactactctt cagtcagatc aagaggaaat tgactatgat 2760
220 gataccatat cagttgaaat gaagaaggaa gattttgaca tttatgatga ggatgaaaat 2820
221 cagagccccc gcagctttca aaagaaaaca cgacactatt ttattgctgc agtggagagg 2880
222 ctctgggatt atgggatgag tagctcccca catgttctaa gaaacagggc tcagagtggc 2940
223 agtgtccctc agttcaagaa agttgttttc caggaattta ctgatggctc ctttactcag 3000
224 cccttatacc gtggagaact aaatgaacat ttgggaactc tggggccata tataagagca 3060
225 gaagttgaag ataatactat ggtaactttc agaaatcagg cctctcgtcc ctattccttc 3120
226 tattctagcc ttatttctta tgaggaagat cagaggcaag gagcagaacc tagaaaaaac 3180
227 tttgtcaagc ctaatgaaac caaaacttac ttttgaaag tgcaacatca tatggcacc 3240
228 actaaagatg agtttgactg caaagcctgg gcttatttct ctgatgttga cctggaaaaa 3300
229 gatgtgcact caggcctgat tggacccctt ctggtctgcc aactaacac actgaaccct 3360
230 gctcatggga gacaagtgc agtacaggaa tttgctctgt tttcaccat ctttgatgag 3420
231 accaaaagct ggtacttcac tgaaaatatg gaaagaaact gcagggtcc ctgcaatatc 3480
232 cagatggaag atcccacttt taaagagaat tatcgcttcc atgcaatcaa tggctacata 3540
233 atggatacac taactggctt agtaatggct caggatcaaa ggattcgatg gtatctgctc 3600
234 agcatgggca gcaatgaaaa catccattct attcatttca gtggacatgt gttcactgta 3660
235 cgaaaaaaag aggagtataa aatggcactg tacaatctct atccagggtg ttttgagaca 3720
236 gtggaaatgt taccatccaa agctggaatt tggcggttg aatgccttat tggcgagcat 3780
237 ctacatgctg ggatgagcac actttttctg gtgtacagca ataagtgtca gactcccctg 3840
238 ggaatggctt ctggacacat tagagatttt cagattacag cttcaggaca atatggacag 3900
239 tgggccccaa agctggccag acttcattat tccggatcaa tcaatgcctg gagcaccaag 3960
240 gagccctttt cttggatcaa ggtggatctg ttggcaccaa tgattattca cggcatcaag 4020
241 acccagggtg cccgtcagaa gttctccagc ctctacatct ctcagtttat catcatgtat 4080
242 agtcttgatg ggaagaagtg gcagacttat cgaggaaatt ccactggaac cttaatggtc 4140
243 ttctttggca atgtggattc atctgggata aaacacaata tttttaacco tccaattatt 4200

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/740,211

DATE: 03/22/2001

TIME: 11:13:57

Input Set : A:\09740211.txt

Output Set: N:\CRF3\03222001\I740211.raw

```

244 gctcgatata tccgttttga cccaactcat tatagcattc gcagcactct tcgcatggag 4260
245 ttgatgggct gtgattttaa tagttgcagc atgccattgg gaatggagag taaagcaata 4320
246 tcagatgcac agattactgc ttcatcctac ttaccaata tgtttgccac ctggtctcct 4380
247 tcaaaagctc gacttcacct ccaagggagg agtaatgcct ggagacctca ggtgaataat 4440
248 ccaaaagagt ggctgcaagt ggacttccag aagacaatga aagtcacagg agtaactact 4500
249 cagggagtaa aatctctgct taccagcatg tatgtgaagg agttcctcat ctccagcagt 4560
250 caagatggcc atcagtggac tctctttttt cagaatggca aagtaaagggt ttttcaggga 4620
251 aatcaagact ccttcacacc tgtgtgaac tctctagacc caccgttact gactcgctac 4680
252 cttcgaattc accccagag ttgggtgcac cagattgccc tgaggatgga ggttctgggc 4740
253 tgcgaggcac aggacctcta ctgactcgag aataaaagat cagagctcta gagatctgtg 4800
254 tgttggtttt ttgtgtgcgg ccgcaggaac ccctagtgat ggagttggcc actccctctc 4860
255 tgcgcgctcg ctgcctcact gaggcggggc gaccaaagggt cgcgggacgc ccgggctttg 4920
256 cccggggcgc ctcagtgcgc gacgcagcgc gcagctgcct gcaggacatg tgagcaaaag 4980
257 gccagcaaaa ggccaggaac cgtaaaaagg ccgcgttgct ggcgtttttc cataggctcc 5040
258 gccccctga cgagcatcac aaaaatcgac gctcaagtca gaggtggcga aaccgcacag 5100
259 gactataaag ataccaggcg ttccccctg gaagctccct cgtgcgctct cctgttccga 5160
260 ccttgccgct taccggatac ctgtccgctt ttctcccttc gggaagcgtg gcgctttctc 5220
261 atagctcagc ctgtaggtat ctacgttcgg tgtaggtcgt tcgctccaag ctgggctgtg 5280
262 tgcacgaacc ccccgttcag ccgcaccgct gcgccttata cggtaactat cgtcttgagt 5340
263 ccaaccgggt aagacacgac ttatcgccac tggcagcagc cactggtaac aggattagca 5400
264 gagcgaggta tgtaggcggt gctacagagt tcttgaagtg gtggcctaac tacggtaca 5460
265 ctagaaggac agtatttggt atctgcgctc tgctgaagcc agttaccttc ggaaaaagag 5520
266 ttggtagctc ttgatccggc aaacaaacca ccgctggtag cgggtggttt tttgtttgca 5580
267 agcagcagat tacgcgcaga aaaaaaggat ctcaagaaga tcctttgatc tttctacgg 5640
268 ggtctgacgc tcagtggaac gaaaactcac gtttaaggat tttggtcatg agattatcaa 5700
269 aaaggatctt caoctagatc cttttaaatt aaaaatgaag ttttaaatca atctaaagta 5760
270 tatatgagta aacttggtct gacagttacc aatgcttaat cagtgaaggca cctatctcag 5820
271 cgatctgtct atttcgttca tccatagttg cctgactccc cgtcgtgtag ataaactacg 5880
272 tacgggaggg cttaccatct ggccccagtg ctgcaatgat accgcgagac ccacgctcac 5940
273 cggctccaga ttatcagca ataaaccagc cagccgggaag ggccgagcgc agaagtggtc 6000
274 tgcgaacttt atccgctcc atccagtcct ttaattgttg ccgggaagct agagtaagta 6060
275 gttcgccagt taatagtttg cgcaacgttg ttgccattgc tacaggcatc gtggtgtcac 6120
276 gctcgtcgtt ttgtatggtc tcattcagct ccggttccca acgatcaagg cgagttacat 6180
277 gatcccccat gttgtgcaaa aaagcgggta gctccttogg tctccgacg gttgtcagaa 6240
278 gtaagttggc cgcagtgtta tcaactcatg ttatggcagc actgcataat tctcttactg 6300
279 tcatgccatc cgtaagatgc ttttctgtga ctggtgagta ctcaaccaag tcattctgag 6360
280 aatagtgtat gcggcgaccg agttgctctt gcccgcgctc aatacgggat aataccgcgc 6420
281 cacatagcag aactttaaaa gtgctcatca ttggaaaacg ttcttogggg cgaaaactct 6480
282 caaggatctt accgctgttg agatccagtt cgatgtaacc cactcgtgca cccaactgat 6540
283 cttcagcatc ttttactttc accagcgttt ctgggtgagc aaaaacagga aggcaaaatg 6600
284 ccgcaaaaaa gggaataaag gcgacacgga aatgttgaat actcatactc ttcttttttc 6660
285 aatattattg aagcatttat cagggttatt gtctcatgag cggatacata tttgaatgta 6720
286 tttagaaaaa taaacaaata ggggttccgc gcacatttcc ccgaaaagtg ccacctgacg 6780
287 tctaagaaac cattattatc atgacattaa cctataaaaa taggcgtatc acgaggccct 6840
288 ttgctctcgc gcgtttcggg gatgacggtg aaaaacctctg acacatgcag ctcccggaga 6900
289 cggtcacagc ttgtctgtaa gcggatgccg ggagcagaca agcccgtcag ggccgctcag 6960
290 cgggtgttgg cgggtgtcgg ggctggtta actatgcggc atcagagcag attgtactga 7020
291 gagtgcacca taaaattgta aacgttaata ttttggtaaa attcgcgtta aatttttgtt 7080
292 aaatcagctc attttttaac caataggccg aaatcggaac aatcccttat aaatcaaaag 7140

```

VERIFICATION SUMMARY

DATE: 03/22/2001

PATENT APPLICATION: US/09/740,211

TIME: 11:13:58

Input Set : A:\09740211.txt

Output Set: N:\CRF3\03222001\I740211.raw